



LAGNIAPPE

John C. Stennis Space Center

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Former director Estess dies at 71

Roy Estess, former director of NASA's John C. Stennis Space Center, passed away June 25 at his home in Tylertown. He was 71.



"We mourn the loss of this great leader, mentor and friend," Stennis Director Patrick Scheuermann said. "The NASA family has lost a pioneer of space exploration and a true hero."

A Tylertown native, Estess built a 37-year career with NASA, beginning as a test engineer on the Saturn V second-stage test project at Stennis.

Estess later served as head of the Applications Engineering Office, deputy of the Earth Resources Laboratory and director of the Regional Applications Program at Stennis. From 1980 to 1988, he served as Stennis' deputy director. He was named the center's fourth director in 1989 and remained in that post until he retired in 2002. In 1992, he was temporarily assigned to NASA Headquarters as a special assistant to the administrator and served two consecutive NASA administrators. From February 2001 to April 2002, Estess was assigned as acting director of NASA's Johnson Space Center in Houston.

At the time of his retirement, Estess was praised as a steadying influence, a no-nonsense manager and a straight-shooter focused on finding solutions to problems.



A-3 stand update

Construction of the A-3 Test Stand at NASA's John C. Stennis Space Center continues in preparation for simulated high-altitude testing of next-generation rocket engines. Assembly of a heavy- and high-lift crane has been completed, and proof lifts are being conducted. The crane is a new design manufactured by the Liebherr Group and is one of only three in the world at this time. It is needed to install the stand's test cell and diffuser, as well as the large liquid oxygen and liquid hydrogen propellant tanks on top of the stand. Set for activation in 2012, the A-3 Test Stand will allow operators to test engines at simulated altitudes of up to 100,000 feet. Such testing is critical for engines that will carry humans beyond low-Earth orbit once more. In addition to preparations for installation of the test cell and diffuser, work continues on the high-pressure industrial water system at the stand. Work also is under way on the propellant and water supply piping for the chemical steam generators that will be used to simulate high altitudes on the stand. Isopropyl alcohol, water and liquid oxygen tanks needed for the chemical steam generators are shown to the left of the stand. Construction of the stand began in 2007. The A-3 stand is the first large test facility built at Stennis since the 1960s. When completed, it will provide Stennis operators with unique capabilities for testing full-scale engines: to conduct full-duration tests (for the amount of time the engines will have to fire during an actual flight) and to gimbal the engines (rotate them in the same way they must move during flight to ensure proper trajectory). No other test stand in the country allows all three of those aspects at such simulated high altitudes at the same time.

From the desk of
**Patrick
 Scheuermann**
 Director
 Stennis Space Center



I really hope all of you enjoyed a safe Fourth of July holiday weekend with family and friends! As we begin the second half of the year, I urge each of you to maintain your dedication and focus on safe operations.

As the fiscal year 2011 budget process continues, we will begin to see further details emerge about NASA's future direction. I have no doubt Stennis' core missions of propulsion testing, which includes continuing construction of the A-3 Test Stand, and applied science will be reinforced. What we provide is nationally unique!

We look forward to continuing to support the ongoing Pratt and Whitney Rocketdyne testing program for the RS-68 rocket engine. I also expect to see an Aerojet AJ-26 rocket engine delivered soon to the E-1 Test Stand to begin that testing program for Orbital Sciences Corporation. Both of these engine programs are significant to America's preeminence in space and provide a look into the future, as Stennis uses its unique testing capabilities to support commercial companies in their journey to low-Earth orbit.

On the applied science front, Stennis continues to provide assistance related to the Gulf of Mexico oil spill, which includes planning for long-term recovery efforts. Anne Peek, chief of the Stennis Applied Science and Technology Project Office, is serving as the single point of contact for all of NASA to ensure the agency is providing timely assistance as requested. She also is coordinating all federal agencies onsite so that Stennis remains effective in its federal city efforts.

The synergy of the federal agencies located at Stennis provides a critical mass in engineering and science research that could play a major role in future years. In addition, the efforts of the Northern Gulf Institute, Gulf of Mexico Alliance and Mississippi Enterprise for Technology, all located at Stennis, further distinguish the space center's uniqueness.

In closing, I would be remiss not to ask each person to pause for a moment to remember and reflect on the passing of one of NASA's best, former Stennis Director Roy Estess. He was a great leader, mentor and friend. While many are deeply saddened, I would ask each of you who had the privilege to work for him and with him to recall a particular story and share it with others in the Stennis workforce who may not have known him. To build on the legacy of Roy Estess and other great leaders is a responsibility we all share.

Stennis employees join national Feds Feed Families effort

Cabrina Bell (l to r) and Jeanie Frederick with the Stennis Space Center Office of Human Capital help Hancock County Food Pantry representatives Edward Catone and Frank Manchester load collected food items July 9 as part of the 2010 Feds Feed Families campaign. The second annual national food drive was launched last month and involves federal agencies and employees across the country. Organizers hope to collect 1.2 million pounds of food items throughout the summer. The effort comes at a critical time as food banks around the country face severe shortages of nonperishable items, just as summer leaves more children without school nutrition programs. Collection boxes are located throughout Stennis for employee donations. Items will be collected at the end of July and August. The 2010 food drive ends Aug. 31.



FULFILLING NASA'S EXPLORATION MISSION

A-1 stand prepares for future testing

Engineers at Stennis Space Center continued preparations for testing the next generation of rocket engines by conducting a key liquid oxygen (LOX) pressurization test on the facility's A-1 stand June 25.

Operators performed a sensitive acoustics emissions (AE) test on the 40,000-gallon LOX tank at the A-1 stand, which is being readied to support development of the J-2X rocket engine. The AE test is designed to ensure the structural integrity of the LOX tank that provides rocket propellant for engine tests at the stand.

The test pressurized the tank "full up" to 250 psi – much higher than is needed during rocket engine tests – and revealed no problems, reported Jeff Henderson, the A Test Complex test director.

The tank last was tested five years ago. Henderson said operators hope this test will certify the tank for a 15-year period. The final report on the test is due soon, but preliminary data revealed no concerns.

The test is a complicated effort involving a number of Stennis work crews and requiring the coordination of other high-noise activities in the area that could interfere with the process. It requires stand operators to erect scaffolding around the large tank and break the vacuum on the tank annulus, the densely-insulated space between the tank's inner and outer shells that allows liquid oxygen to be stored and maintained at extremely cold temperatures.



NASA engineer Jeff Henderson (l to r) talks with Mistras Group employees Salah Altannir and Joel Sanchez during an acoustics emissions test on the A-1 Test Stand liquid oxygen tank June 25.

Operators then must cut into the outer tank to access the inner tank and install sensitive listening equipment, which can pick up the sound of a pencil lead snapping, Henderson said. Once the equipment is in place, the tank is pressurized to its maximum allowable working pressure. Test conductors use computers to "listen" to the tank to determine if any pressure leaks are evident.

Following the test, stand operators must reverse the preparation process and return the tank to its previous condition, which includes restoring the insulating vacuum.

The June 25 test was conducted by the Mistras Group of Houston and was the second such test performed at Stennis in a week's time. Just days prior to the A-1 test, the 110,000-gallon liquid hydrogen tank on the A-2 stand underwent the same certi-

fication process. No problems were revealed in that test either.

The A-2 stand also is being prepared to provide sea-level testing of the next-generation J-2X engine. The engine is being developed to help carry humans beyond low-Earth orbit once more. Testing on both the A-1 and A-2 stands is scheduled to begin in early 2011.

"The modifications of the A-1 and A-2 stands are progressing well and as scheduled, but with no time to spare," Henderson said. "Critical designs and reviews are nearly complete and have been executed very well by the NASA design team and support contractors. Maintaining this pace will prove to be challenging, exciting and rewarding for those involved, and is necessary to ready the stands for J-2X power pack-2 and J-2X engine testing next spring."

Upcoming launch schedule

STS-133
Shuttle Discovery
Target: Nov. 1

STS-134
Shuttle Endeavour
Target: Feb. 26, 2011

Orbital Sciences
Taurus rocket
Target: Nov. 22
Site: Vandenberg AFB

Engineer reunites with teacher

One spur-of-the-moment decision in high school changed everything for then-West Kemper High School student Randy Galloway. His decision to transfer to a geometry class taught by Scooba math teacher Mose Hunt made all the difference for his future career in America's space program.

The choice opened the door to a "wonderful learning experience" – and to a NASA career that has led Galloway to his current position as director of engineering and rocket engine test activities at south Mississippi's John C. Stennis Space Center.

"You have to marvel how your life can pivot in a single moment," said Galloway, who played host to his former high school teacher and his wife during the May launch of space shuttle Atlantis on the STS-132 mission to the International Space Station. "That class turned out to be one that had the most influence on me."

It was one of three classes Galloway took with Hunt at the DeKalb high school, and the recent shuttle launch



Randy Galloway (l to r) stands with astronaut Jim Dutton, Rebecca Hunt and former Mississippi high school teacher Mose Hunt during STS-132 launch activities in Florida.

was a way to say thank you to a former teacher who helped set a future course with instruction in geometry, algebra and pre-calculus.

Galloway had been interested in NASA for years by the time he entered Hunt's classroom. "One of the first things I can remember is watching the launch of Gemini 3," he said. "When you put that fascination with a good teacher, it made everything that followed happen."

What followed is a NASA career of 24 years and counting. It began in 1986 at Marshall Space Flight Center, followed by stints at Johnson and Kennedy space centers.

Galloway moved to Stennis in 2003, where he was responsible for testing rocket propulsion components in the E Test Complex. He also led the External Tank Independent Technical Assessment Team during the return to flight effort. He served as deputy director of the Propulsion Test Directorate at the center before being named to his current position.

The classes with Hunt proved a good fit for Galloway. Hunt was working on his master's degree at the time, so much of what he was learning was passed on to his students. Hunt also made sure to present the students with what he called "100 stoppers,"

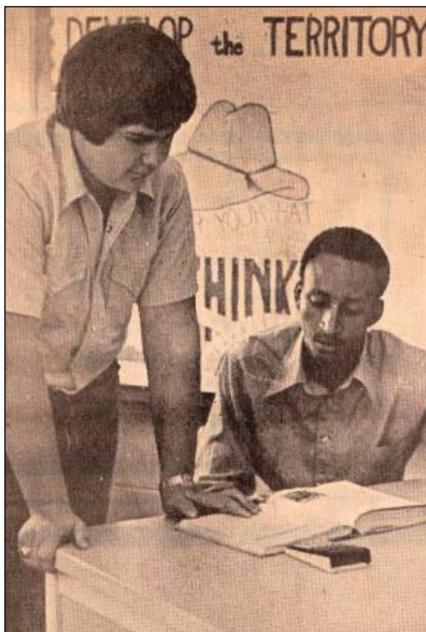
questions placed at the end of tests to challenge students who wanted to make a perfect score. Hunt remembers Galloway telling him that the challenges really paid off when he moved on to college studies.

However, even in high school, Galloway understood the significance of Hunt's teaching. When selected as his school's Star student based on his academic record, Galloway was asked to designate a Star teacher. He chose Hunt, who spent 30 years teaching at West Kemper High School before accepting his current position at the University of West Alabama.

At West Kemper, Hunt taught several young people who moved on to mathematics-related careers, Galloway said. "It just goes to show when you have someone who cares as a teacher, they can make a tremendous difference," he said.

Years later, Galloway and Hunt both continue to encourage young people to consider studies and careers in mathematics and related fields like science, technology and engineering.

"Don't shy away from something because it's hard," Galloway said. "If it's hard, that means not that many people can do it. At NASA, for instance, we get to put people in space. Very few people get to do that."



A 1979 newspaper photo from the Kemper County Messenger in DeKalb, Miss., shows future NASA engineer Randy Galloway (left) with teacher Mose Hunt.

Astronaut awards Silver Snoopys



NASA's John C. Stennis Space Center Director Patrick Scheuermann and astronaut Steve Robison stand with recipients of the 2010 Silver Snoopy awards following a June 23 ceremony. Sixteen Stennis employees received the astronauts' personal award, which is presented to less than 1 percent of the total workforce annually. The prestigious award is presented by a member of the astronaut corps representing its core principles for outstanding flight safety and mission success. This year's recipients and ceremony participants were: (front row, l to r) Cliff Arnold (NASA), Wendy Holladay

(NASA), Kendra Moran (Pratt & Whitney Rocketdyne), Mary Johnson (Jacobs Technology Facility Operating Services Contract group), Cory Beckemeyer (PWR), Dean Bourlet (PWR), Cecile Saltzman (NASA), Marla Carpenter (Jacobs FOSC), David Alston (Jacobs FOSC) and Robison; (back row, l to r) Scheuermann, Don Wilson (A2 Research), Tim White (NASA), Ira Lossett (Jacobs Technology NASA Test Operations Group), Kerry Gallagher (Jacobs NTOG), Rene LeFrere (PWR), Todd Ladner (ASRC Research and Technology Solutions) and Thomas Jacks (NASA).

Shuttle crews visit Stennis

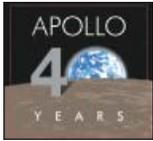
(Top photo) STS-134 space shuttle mission Commander Mark Kelly (left) addresses employees gathered at the foot of the A-2 Test Stand at Stennis Space Center during a crew visit June 11. Kelly and fellow crew members visited prior to their mission early next year aboard shuttle Endeavour. The STS-134 flight is the last scheduled mission for NASA's Space Shuttle Program. All six members of the STS-134 crew visited Stennis (l to r): Kelly, Mission Specialist Mike Fincke, Pilot Greg Johnson, Mission Specialist Greg Chamitoff, European Space Agency Mission Specialist Roberto Vittori and Mission Specialist Andrew Feustel.



(Bottom photo) The STS-132 Atlantis space shuttle crew visited NASA's John C. Stennis Space Center on June 17 to thank facility personnel for their role in enabling the successful May mission to the International Space Station. Crew members presented a video recap of their mission, scheduled as the last flight for the Atlantis shuttle. Following the presentation, Stennis Project Directorate Director Keith Brock (center) presented Mission Specialists Piers Sellers (l to r), Stephen Bowen, Michael Good, Garrett Reisman, Pilot Dominic Antonelli, and Commander Kenneth Ham with a plaque commemorating work at Stennis.



Stennis ends 34 years of SSME testing



Note: John C. Stennis Space Center has played a pivotal role in the success of the nation's space program. This month, Lagniappe looks back on an important moment in the center's history.

A year ago, Stennis Space Center marked the end of an era for testing the space shuttle main engines that have powered the nation's Space Shuttle Program for more than three decades.

On May 19, 1975, Stennis engineers conducted the first static test of the world's most sophisticated rocket engine, designed to help power NASA's unprecedented, reusable space vehicle. In ensuing years, the space shuttle proved its worth, serving as the workhorse of the American space program; helping to foster cooperative efforts with nations around the world; enabling construction of the International Space Station; providing a remarkable, space-based science laboratory; and contributing to countless spinoff technologies to enhance daily life.

During that time, about 50 main engines were tested at Stennis for use on more than 130 shuttle missions. Each engine could be used to power more than a dozen flights before being recertified. With just two shuttle missions remaining, none has failed as a result of engine malfunction.

Overall, Stennis performed more than 2,000 tests, totaling more than 1 million seconds of accumulated hotfire time in support of development, certification, acceptance and anomaly resolution for the space shuttle main engine. Stennis also tested the three-engine cluster arrangement – the main propulsion test article – that powers the shuttle, an accomplishment some call the facility's "finest hour."

In single-engine and cluster testing alike, the goal was the same: eight and one-half minutes of successful firing, duplicating the amount of time it takes the engines to power the shuttle into orbit. On July 29, 2009, the shake, rattle and roar of the last scheduled space shuttle main engine test was heard at Stennis for exactly that length of time.

Stennis holds IT Expo

Brian Wagner with the U.S. Navy (l to r), Andrew Hiukenbein with NVision Solutions and Theresa Avoskey with the Naval Oceanographic Office at Stennis Space Center learn about the latest improvements in making flash drives secure during an Information Technology Expo held June 16. Area companies visited Stennis during the day to offer exhibits for employees on a range of information technology topics. Classes also were offered on Microsoft Windows 7, secure computing and social networking. The theme of the daylong expo was "The Road to Green IT Computing." The sixth annual event was sponsored by the Stennis Office of the Chief Information Officer.



@ Stennis

Construction and work is under way all across the Stennis test complexes. How encouraged does that make you feel about the future of the center?

Editor's Note: @ Stennis highlights the views and opinions of Stennis Space Center employees.



"I'm very encouraged. It's a positive sign that we're moving forward and getting needed infrastructure in place for future engine testing."

Brad Brown, NASA

"It's a very good sign. If construction is going on, it means plans are in place for the future. So, I'm very encouraged for Stennis."

Stephanie Lee, NASA



"To me, all of the test complex activities are very encouraging. Hopefully, it will continue."

**Christine Powell
NASA**

"It's very encouraging. To me, it's a sign that Stennis is moving ahead and in the right direction."

**Rachel Stallings
NASA Shared Services Center**



Office of Diversity and Equal Opportunity

New policy focuses on harassment

“Workplace bullying – in any form – is bad for business. It destroys teamwork, commitment and morale.”

(Chief Executive Tony Morgan, *The Industrial Society*)

All of us, at one time or another in our careers, may feel we have been harassed, but didn't have any recourse in doing something about it. NASA intends to change that. It has established an agencywide process for handling allegations of harassing conduct. Under longstanding agency policy, this kind of conduct is unacceptable in the NASA workplace. However, the new procedures are designed to enhance the agency's ability to deal with harassing conduct promptly and effectively.

The anti-harassment process is not the same as the Equal Employment Opportunity complaints process. The EEO complaints process is designed to address illegal discrimination that already has occurred and to prevent its recurrence. The anti-harassment process seeks to address and resolve harassing conduct before it ever reaches the level of discrimination, as defined under the law.

The new process calls for each NASA facility to designate a center anti-harassment coordinator (CAHC) to assist managers, supervisors and employees in handling harassment allegations. NASA employees or contractors who believe they have been subjected to harassing conduct may raise concerns with a manager, supervisor or the CAHC.

NASA managers and supervisors, in coordination with the CAHC and stakeholder officials, are expected to act. The overarching goal of the new procedures is to address harassing conduct at the earliest possible opportunity. NASA managers and supervisors are expected to end any



Earth Day winners recognized

Winners in the 2010 Earth Day energy contest at Stennis Space Center were announced June 14. Jody Knight, an employee with the Jacobs Technology NASA Test Operations Group, and Vicky Looney, an employee with the NASA Shared Services Center at Stennis, were recognized for estimating closest to what Stennis pays in energy costs each year. Both offered estimates close to the \$14 million annual cost for Stennis electricity and natural gas. Each winner received a box of energy-efficient light bulbs. The contest was part of Earth Day 2010 activities sponsored by the Stennis Environmental Office on April 22. Presenting the awards were Missy Ferguson, energy manager at NASA's John C. Stennis Space Center, and Donald Thompson, energy engineer with the Jacobs Technology Facility Operating Services Contract. Shown above are (l to r): Ferguson, Knight, Looney and Thompson.

harrassing conduct that occurs and prevent its recurrence.

The procedures do not cover allegations of harassment brought by contractors against their own contractor supervisors and/or contractor co-workers, although civil servant-contractor matters are covered. For more information, visit the Office of Diversity and Equal Opportunity Web site at http://odeo.hq.nasa.gov/documents/AntiHarassment_FAQs.pdf. The Stennis CAHC is Jo Ann Larson, who may be contacted in Building 1100, Room 11147, or by phone: 228-688-2079.



**NASA Stennis Space Center
Shooting For A Star**

VPP
Voluntary Protection Programs
An OSHA Cooperative Program

**Give
safe workers
the recognition
they deserve**

The Voluntary Protection Programs initiative at Stennis is about everyone striving to work safely. Report someone working safely by identifying them as a “Shaker.” See the new “Shakers” posters around Stennis to give a co-worker recognition for working safely.

Hail & Farewell

NASA bids farewell to the following:

Mark Femal	Computer scientist Center Operations Directorate
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And welcomes the following:

Thomas Favre	Student trainee/engineering Engineering and Test Directorate
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Stennis camp features underwater robots

Ian Tonglet, 13, (left) and Seth Malley, 13, both of Picayune and both participants in the 2010 Astro STARS session at Stennis Space Center, work with an underwater robot during a camp activity June 29.

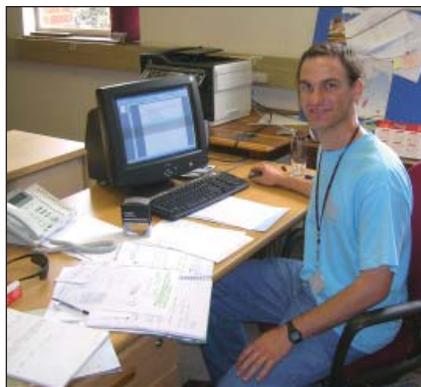
Astro STARS (Spaceflight, Technology, Astronomy & Robotics @ Stennis) is a science and technology camp for 13- to 15-year-olds. During the camp, NASA joined with the U.S. Navy for the underwater robotics exercise involving Sea Perch robots, which are simple, remotely operated underwater vehicles made from PVC pipe and other inexpensive, easily available materials. The Sea Perch Program provides kits for students to build underwater robots for various research activities. During the Stennis exercise, students used robots constructed earlier in the day to maneuver underwater (as seen to the left of Tonglet) and collect plastic rings.



Former Stennis intern aids research in Africa

For Jason Jones, the DEVELOP program at Stennis Space Center prepared him well for his latest professional adventure: supporting biodiversity research activities designed to make a difference in day-to-day life in Africa.

Jones traveled to the continent as one of three U.S. fellows supported by the National Science Foundation to participate in My Community, Our Earth programs in Africa. The groundwork for his involvement was laid through participation in NASA's DEVELOP student internship program. As a DEVELOP intern at Stennis, Jones helped compile research on community concerns, such



as coastal erosion, and create advanced computer-generated visualizations based on the data. The research and visualizations were presented to community leaders for making decisions on the concerns.

Jones engaged in much the same activity in Africa, working to help young people there use geographic techniques to study various biodiversity issues, such as work with threatened species. The resulting information and data is provided to policy makers to help them make informed decisions about the issues.

Jones credited Stennis with preparing him for the Africa work. "The program has played the most critical role in my growth as a young professional," he said. "I am extremely grateful for all that DEVELOP and especially my mentors have done for me. Without DEVELOP, this experience in Africa would never have existed."